LEONID OLIKER

26 Cumberland San Francisco, CA 94110
loliker@lbl.gov (415) 282-1980

EDUCATION:

UNIVERSITY OF COLORADO, Boulder, Colorado
12/97 Ph.D. Computer Science (Advisor Oliver McBryan)
5/94 M.S. Computer Science (GPA 3.9/4.0)

UNIVERSITY OF PENNSYLVANIA, Philadelphia, Pennsylvania
5/91 B.S. Computer Engineering (Minor in Mathematics) (GPA 3.9/4.0)
5/91 B.S. Finance from The Wharton School of Business (GPA 3.7/4.0)

WORK AND RESEARCH EXPERIENCE:

1/99 - Present **Computer Scientist Visiting Post Doctoral Fellow** Scientific Computing Group, NERSC, LBNL
Developed unstructured mesh adaptation code using three leading paradigms on state-of-the-art supercomputers. Work was nationally recognized and won *Best Paper Award* at SC99. Received the LBNL *Outstanding Performance Award* for research relating to the evaluation of the Tera MTA. Helped develop new system utilization benchmark for the evaluation of high performance systems and schedulers. Currently studying the effects of ordering strategies, programming paradigms, and architectural platforms on sparse matrix computations. Plans include a detailed study of the hybrid programming methodology on the newly acquired SP system. Research interests also include resource management for wireless computing.

12/97 - 12/98 **Post-Doctoral Scientist** NASA Ames - Research Institute for Advanced Computer Studies (RIACS)
Developing optimization strategies for irregular computations on distributed systems. Worked on dynamic load balancing techniques for NUMA and multi-threaded architectures.

7/94 - 11/97 **Visiting Researcher** NASA Ames - RIACS
Completed doctoral thesis entitled PLUM: Parallel Load Balancing for Adaptive Unstructured Meshes. Conducted research on the feasibility of globally remapping adaptive problems in a distributed environment. Program components included: parallel mesh adaption, data redistribution, repartitioning, processor reassignment algorithms, and communication cost models. Designed a parallel version of the non-rotating Kirchoff formulation, which combined methodology with audio and visual rendering tools to predict acoustic signals at thousands of observer locations. Dissertation work was recognized as a *Major Accomplishment* within all of NASA Ames. Additionally performed fundamental research in languages and compilers for parallel computing under Dr. Robert Schreiber. Developed compiler algorithms to automate data mapping and distribution for array-oriented data-parallel languages such as High Performance Fortran.

12/93 - 5/93 **Teaching Assistant** University of Colorado, Boulder
Assisted in teaching a 120 person class - Introduction To Pascal. Responsibilities included three lectures a week, grading and tutoring.

12/91 - 12/92 **Senior Technical Associate** David Sarnoff Research Center
Conducted computer vision research in The Advanced Image Research Group under Dr. Peter Burt. Projects included: the study of deriving compact descriptions of large sequence of frames using redundant spatio-temporal characteristics, research in the recovery of three dimensional structure from motion, and implementation of various image processing algorithms for motion analysis.

6/90 - 9/90 **Summer Researcher** Weizmann Institute of Science, Rehovot Israel
Conducted research in automatic verification packages under Dr. Amir Pnueli.Participated in the design of a system which checks that finite state concurrent programs satisfy their specification.

REFERENCES: Available upon request.